Gdańsk 2023, Nr. 49

Katja Politt

(Leibniz Universität Hannover / Leibniz University Hannover)

ORCID: 0000-0002-4912-2653

Epistemic mag revisited: Assessing the (ir)relevance of propositions

https://doi.org/10.26881/sgg.2023.49.02

This paper investigates the epistemic use of the German modal *mag*. Recent studies have suggested that it might be developing into a concessive marker, possibly losing its epistemic component of assessing the factuality of a proposition. Using a corpus-based analysis of its context features, this paper argues that *mag* still retains some of its epistemic characteristics and is functionally close to markers of irrelevance.

Keyword: Epistemicity, irrelevance judgements, modal verbs, mag, factuality

Epistemisches *mag* als (Ir)Relevanzbewertung von Propositionen – Dieser Beitrag untersucht den epistemischen Gebrauch des Modalverbs *mag*. Neuere Studien deuten darauf hin, dass es sich zu einem konzessiven Marker entwickelt und seine epistemische Komponente der Faktizitätsbewertung verliert. Anhand einer korpusbasierten Analyse der Kontextmerkmale von *mag* wird argumentiert, dass es seine epistemische Komponente beibehält und daher funktional den Irrelevanzmarkierungen nahe steht.

Schlüsselwörter: Epistemizität, Irrelevanzbewertung, Modalverben, mag, Faktizität

1. Introduction

Epistemic modal verbs in German form a class of grammatical expressions that assess the factuality of propositions made by speakers.¹ They are often assumed to be part of the grammatical category mood, with whose members, such as the subjunctive, they share this function (e.g. Diewald 1999, 2009; Politt 2019, 2022). The members of mood belong to two distinct functional subclasses: assessments of factuality and assessments of non-factuality, with epistemic modals being part of the latter. This paper deals with one epistemic modal that seems to behave differently than the rest, namely *mögen*.

The present paper will refer to the epistemic reading of *mögen* by *mag*, the most common form to take on this reading (cf. Baumann 2017; Politt 2022), in order not to confuse it with its non-epistemic reading 'to like something' as in *Ich mag Hamster* ('I like hamsters') or its

¹ I want to thank two anonymous reviewers for their constructive criticism and suggestions with which they contributed to the improvements of this article. The usual disclaimer applies: The remaining caveats are, of course, my own.

illocutionary reading as in *Möge sie den Hamster streicheln!* ('May she pet the hamster!'). Rossari and Smirnova recently proposed that *mag* has lost – or is in the process of losing – its epistemic component (2022: 255). They view it as a concessive marker, whose interpretation is usually strengthened by co-occurring context features, such as adversative conjunctions like the combination of *zwar – aber* ('although – but') in the following example:

 Er mag sich zwar als Außenseiter fühlen, tatsächlich aber trennt den Sprüher aus der HipHop-Parallelgesellschaft nur wenig vom Durchschnittsdeutschen² (DWDS; "Die Zeit", 13.08.1998, Nr. 34)
 'Although he may feel like an outsider, but in fact there is little that separates the sprayer from the hip-hop parallel society from the average German.'

The present paper will argue that *mag* retains its epistemic component (e.g. Diewald 2009; Politt 2022: 300), which is close to the function of irrelevance conditionals when occurring in complex sentences (Section 2). It is typical of *mag* to co-occur with co(n)text features that strengthen this role, such as irrelevance expressions (Section 3). Section 4 explores which irrelevance expressions typically co-occur with *mag* and describes how relevant these markers are for *mag* based on data from the DWDS core corpus of the 20th century (Geyken 2007). Section 5 offers some concluding remarks.

2. Functions of mag

The primary functions of *mag* in present-day German are generally said to be that of admission and contrast (e.g. Diewald 2013; Helbig / Buscha 2017; Welke 1965). Using *mag* in a sentence, speakers admit that some proposition is possibly factual, in contrast to another proposition, which is usually given in the following sentence or in the preceding context and judged as factual, too.

(2) Äußerlich mag ich aussehen wie ein ordinärer Stollentroll, aber innerlich bin ich ein mächtiger Monarch! (DWDS; Moers 1999: 180)
 'On the outside, I might look like a common tunnel troll, but on the inside, I am a mighty monarch!'

The factuality assessment of *mag* is twofold. The example in (2) is a complex sentence containing two propositions, the proposition p_1 *I look like a common tunnel troll on the outside* and the proposition p_2 *I am a mighty monarch on the inside*. The epistemic factuality assessment is part of the sentence containing p_1 . The factuality of p_1 is judged as irrelevant and the reason for this assessment is p_2 , which holds true irrespective of the importance of p_1 . Because it is being evaluated in contrast to the irrelevant p_1 , p_2 is set as relevant. The two propositions are additionally contrasted using adversative *aber* ('but').

Within the grammatical category mood, *mag* is traditionally categorized as part of the sub-paradigm of non-factuality assessments (Diewald 2009). Factuality assessments mark "the degree of commitment of the speaker to the truth or the future truth of the proposition"

² All examples used in this paper are from the DWDS Core Corpus of the 20th century (Geyken 2007).

(Bybee et al. 1994: 320). Consequently, non-factuality assessments are not concerned with the actual truth of propositions but with assumptions concerning their 'reality, actuality, and importance' (Bybee et al. 1994: 179; Diewald 2004: 234; Palmer 2001: 8). The epistemic variants of German modal verbs form oppositional pairs within this sub-paradigm. The oppositional partner of *mag* is said to be *dürfte* (originally 'to be allowed to') within the functional area of phoric non-factuality. Here, *dürfte* marks anaphoric judgements and *mag* marks cataphoric judgements (Diewald 2009: 464). Politt (2022) suggested that it is rather the concessive component of *mag* that gives rise to the (ir)relevance judgement, similarly to the suggestion by Rossari and Smirnova (2022). Concessiveness is phoric in the sense that it connects and contrasts two propositions (Diewald 1999: 237).

(3) Die ostfriesische Hausordnung mag zwar streng sein, sie wird jedoch nur da und dort auch unübersehbar in Erinnerung gerufen: durch ein armdickes Tau mit Knoten, das mahnend an der Wand hängt. (DWDS; "Die Zeit", 08.03.1974, Nr. 11) 'The East Frisian house rules may be strict, however only there and then they are unmistakably called to mind: by an arm-thick rope with knots hanging admonishingly on the wall.'

Consider (3) as an example. Here, the concessiveness is marked additionally with the adversative markers *zwar* ('though, although') and *jedoch* ('however'). But as noted by Diewald (1999: 237), these additional markers are not needed per se to give *mag* an adversative or concessive reading. Epistemic *mag* has taken on this meaning on its own, as illustrated in (4).

(4) Die Freiheit der Forschung mag für viele Professoren oberste Maxime sein, für die Wissenschaftler der Fraunhofer-Gesellschaft ist sie zweitrangig. (DWDS; o. A. 2000 [1999]) 'Freedom of research may be the highest maxim for many professors, for the scientists of the Fraunhofer-Gesellschaft it is of secondary importance.'

In (4), p_1 Freedom of research is the highest maxim for many professors is contrasted with p_2 It is of secondary importance for the scientists of the Fraunhofer-Gesellschaft. Both propositions are within the scope of mag. For p_1 , mag adds an admission of p_1 being true or not, thus simultaneously implying p_1 and $\neg p_1$. This is then contrasted with p_2 , which is marked as true irrespective of the truth value/irrelevance of p_1 . The reading introduced by mag can be paraphrased with *Even though it is possibly true that* $p_1 \lor \neg p_p$, p_2 still holds. This connects this reading of mag to expressions which assert a consequence – in this case p_2 – unconditionally, not influenced by the factuality of the antecedent, in this case p_1 (Haspelmath & König 1998; Leuschner 2006; Vander Haegen et al. 2022). Mag is always part of the sentence containing the antecedent. Even though it has a concessive function here, mag still conveys a factuality judgement because it still assesses the factuality, i. e., the relative importance/relevance of the proposition p_2 . It is however the only epistemic modal that judges the (ir)relevance of two consecutive propositions. The other modals assess the factuality of only one proposition in terms of probability or possibility (e.g. Diewald 1999).

The concessive component of *mag* focused on by Rossari and Smirnova (2022) seems to result from two things: (i) the (ir)relevance judgement of *mag* for two consecutive propositions and (ii) its functional proximity to the constructional family of concessive conditionals

(cf. Section 3). The concessive reading in addition to the factuality judgement can be strengthened or made more explicit by co-occurring co(n)text features such as connectors, irrelevance expressions, or modal adverbs with a similar meaning such as *vielleicht* ('maybe'). In their recent study, Rossari and Smirnova analyzed 119 concessive sentences with *mag* and found adversative or concessive connectors in 50.4% of those sentences, irrelevance conditionals in 22.7%, and lexical expressions of contrast such as *auf den ersten Blick – bei näherem Hinsehen* ('on first sight – upon a closer look') in 18.5% of sentences (Rossari/Smirnova 2022: 255–257). Positively associated context features with *mag* identified by Politt (2022: 291) based on 4,241 sentences containing epistemic *mag* in general include:

- expressive or evidential collexemes,
- irrelevance conditionals,
- subject is a pronoun, impersonal es ('it') or man ('one'),
- mag appears either without negation or is negated with oder nicht ('or not'),
- mag co-occurs with modal adverb *vielleicht* ('maybe').

The following section will focus on one of these features, namely the irrelevance markers in co-occurrence with *mag*. Expressions of irrelevance in the sentence context are the most distinctive feature between *dürfte* and *mag* (cf. Politt 2022: 264–265), thus contributing greatly to the overall function of the modal and to maximally modalized contexts (cf. e. g. Diewald 2013; Mortelmans 2019; Politt 2019).

3. Irrelevance expressions and mag

Expressions of irrelevance can be seen as part of the complex perspectivization of verbal scenes and propositions. Irrelevance can be marked by different strategies in German, e.g., using particles such as *scheißegal* (lit. 'shit no matter'), irrelevance conditionals like *egal was/wer* ('no matter what/who') or *wer/was auch immer* ('whoever/whatever') (e.g. Leuschner 2006, 2020; Vander Haegen et al. 2022).

Irrelevance expressions form a family of constructions with a variety of formal realizations (Leuschner 2020; Vander Haegen 2019; Vander Haegen et al. 2022). Functionally, they are commonly divided into three main groups based on the relation between antecedent and consequent (cf. e. g. Haspelmath & König 1998; Leuschner 2006, 2020):

- (i) scalar, where a single antecedent value is identified as being contextually extreme or particularly informative condition among other options;
- (ii) alternative, where a complex disjunction such as *either or* denotes extreme values for p_1 and p_2 , within a set of values, where p_2 can potentially be $\neg p_1$.
- (iii) universal, where a wh-word is used along with a free-choice adverb to express a variable x within an open proposition px with variability in its values.

As will be shown in Section 4, all three types co-occur with mag in specific modalized contexts. A typical example for an alternative expression with *oder* ('or') is (5):

(5) Das ganze Rudel, mag es größer **oder** kleiner sein, wird von einem älteren Weibchen geführt, das für die Sicherheit aller verantwortlich ist. (DWDS; Natzmer 1967: 155)

'The whole pack, may it be larger or smaller, is led by an older female who is responsible for the safety of all.'

Typical occurrences of scalar (6) and universal (7) expressions are the following examples.

- (6) Denn mag die Schale noch so dünn sein, sie gibt der intakten Kartoffel eine andere Dimension als zerstückelte Salzkartoffeln, was die Zunge sofort registriert. (DWDS; "Die Zeit", 29.07.1999, Nr. 31) 'Because no matter how thin the skin may be, it gives the intact potato a different dimension than cut-up boiled and salted potatoes, which the tongue registers immediately.'
- (7) Auch der Schluß ist wenigstens insoweit verständlich, als man versteht, daß hier der ganzen Geschichte ein glückliches Ende angefügt wird, was auch immer sonst der Sinn der Geschichte sein mag. (DWDS; Weinrich 1964: 180)

'The ending is also comprehensible, at least insofar as one understands that here a happy ending is added to the whole story, whatever else the meaning of the story may be.'

The kind of irrelevance marked in sentences with epistemic mag (cf. Section 2), where mag is part of the sentence containing the antecedent, is similar to what Leuschner (2003) describes as 'indifference': a consequence q is true regardless of the truth conditions of the antecedent p_x (Leuschner 2003: 40–41). In combination with mag, these irrelevance expressions are often characterized as admissions (e. g. Baumann 2017; Helbig & Buscha 2017; Welke 1965), irrelevance leads ('Irrelevanzvorspann', e. g. Diewald 2013), or irrelevance conditionals (Baumann 2017; Politt 2022). The conditional relation holds even if mag is not in the first part of a complex sentence, as illustrated in (8), which also contains the irrelevance marker *was immer* ('whatever'):

(8) Wenn gesprochen wird, kann ein anwesendes Bewußtsein dieses Geräusch leicht von anderen Geräuschen unterscheiden und kann sich der Faszination durch die laufende Kommunikation kaum entziehen (was immer es im unhörbaren eigenen System dabei denken mag). (DWDS; Luhmann 1997: 110)

'When there is speaking, a consciousness present can easily distinguish this sound from other sounds and can hardly escape the fascination of the ongoing communication (whatever it may think of it in its own inaudible system).'

In (8), a consciousness present can hardly escape the fascination of the ongoing communication (p_2) still holds true, no matter what it thinks of it in its own inaudible system (p_1) . (8) is an example of a universal conditional, where p_1 includes an open set of values. There are many possible things a consciousness could think of a conversation, but p_2 is still true, no matter what it actually thinks of.

In the following section, I will take a closer look at the possible combinations of *mag* and the different kinds of irrelevance conditionals.

4. How relevant are irrelevance markers for epistemic mag?

The analysis in this section uses 4,241 sentences containing *mag*, obtained from the DWDS core corpus of the 20th century (Geyken 2007)³ as previously discussed in Politt (2022). Of

³ The data and code used in the present paper can be found at https://osf.io/whv6t/.

these sentences, 1,391 (32.8%) include an element that reinforces the irrelevance interpretation. This number is distinctively higher than the 22.7% of irrelevance conditionals found by Rossari and Smirnova (2022: 257). Their data, however, consisted of a random sample of 200 sentences with *mag* from the German newspaper DIE ZEIT from 2008, yielding 119 sentences with a concessive reading. Only those were then analyzed with regard to the irrelevance conditionals. Of the 1,391 sentences containing *mag* in the current data, 458 (32.9%) come from newspaper texts, 497 (35.7%) from scientific texts, 337 (24.2%) from non-fictional texts, and 99 (7.1%) from fictional texts.

In this section, two general questions regarding the relationship between epistemic *mag* and irrelevance markers will be answered: (i) What kinds of irrelevance markers appear in these sentences? and (ii) What other context features such as text genre, connectors, and typical subjects can be found?

As argued in Section 2, *mag* can show an irrelevance-relevance reading in complex sentences on its own, but does so more frequently when other functionally similar co(n)text features are present, e. g., an adversative conjunction contrasting two propositions. Combining different context features to strengthen a certain reading is a well known pragmatic strategy, which is linked to avoiding conflicts in dialogue settings (cf. e. g. Leuschner 2013: 47–48).

In the current data, a great variety of different strategies to mark irrelevance is employed. Treating the different instantiations as variants of more abstract schemas, such as $w^*_(auch)_(immer)$, where *auch* and *immer* can be omitted (Leuschner 2013; Vander Haegen 2021), sentences containing *mag* exhibit 23 different expressions of irrelevance. This means that, for example, expressions like in (9) and (10) were counted as an instantiation of a more schematic expression $w^*_(auch)_(immer)$.

- (9) Was die Regierung sich auch immer zurechtlegen und treuherzig bekunden mag, sie kann nicht darüber hinwegtäuschen, daß der Geist des Völkermords sich längst in den Hirnen der Soldaten eingenistet hat. (Hannover 2001 [1998]: 244)
 'No matter what the government may say, it cannot hide the fact that the spirit of genocide has long since taken root in the brains of the soldiers.'
- (10) Wie groß eine Herausforderung auch sein mag, sie ist auf jeden Fall leichter zu bewältigen, wenn man vorher eine ordentliche Mahlzeit zu sich genommen hat. (DWDS; Moers 1999: 25)
 'No matter how big a challenge is, it is definitely easier to overcome if you have eaten a proper meal beforehand.'

Co-occurrence of $w^{*}(auch)_{(immer)}$ with epistemic *mag* results in a strengthening of the irrelevance reading of the sentence. Compare (10) with (10') below, where the additional irrelevance expression has been omitted:

(10') Eine Herausforderung mag groß sein, sie ist auf jeden Fall leichter zu bewältigen, wenn man vorher eine ordentliche Mahlzeit zu sich genommen hat.
'A challenge may be big, it is in any case easier to overcome if you have eaten a proper meal beforehand.'

While (10') still maintains an irrelevance reading in the sense of 'it does not matter if a challenge is big', it is strengthened when the two are combined as in (10).

Table 1 shows an overview of all expressions with a raw frequency > 10.⁴ The third column in Table 1 shows the relative frequency of the marker, compared to the total number of sentences.

Irrelevance marker	Frequency	Relative Frequency (%)
w*_(auch)_(immer)	587	42.20
so_(auch)	296	21.28
(auch)_(noch)_(so)	267	19.19
oder	85	6.11
zwar	80	5.75
oder_nicht	23	1.65
egal_w*	17	1.22

Table 1: Relative frequency of irrelevance markers

The most frequent irrelevance marker is $w^*(auch)_(immer)$, making up 42.20% of all occurrences. This is possibly due to its status as one of the prototypes of irrelevance expressions (Leuschner 2020; Vander Haegen et al. 2022). The second most frequent irrelevance marker is *so_(auch)* ('however') (21.28%). A typical example is given in (11).

(11) So viele Vasen man auch haben mag, immer wieder stellt es sich heraus, daß man noch nicht Vasen genug hat! (DWDS; Oheim 1967 [1954]: 158)
'No matter how many vases you have, it always turns out that you don't have enough vases yet.'

The irrelevance reading 'it does not matter how many vases you have' can be retained even without *so auch*. Similar to what was shown above with (10) and (10'), the irrelevance reading is more explicit however, if *so auch* is present.

(11') Man mag viele Vasen haben, immer wieder stellt es sich heraus, daß man noch nicht Vasen genug hat!

'You can have many vases, it always turns out that you don't have enough vases yet.'

In this sense, *so_(auch)* strengthens the (ir)relevance contrast but does not evoke it. It is evoked by the usage of *mag*, as can be seen from the paraphrase in (11'). Even without any additional concessive or conditional marker present, the complex sentence expresses the contrast between p_1 'you can have many vases' and p_2 'you don't have enough vases yet', adding the irrelevance judgement to p_1 'it does not matter how many vases you have'. p_2 holds true for each possible value of p_1 , i.e., irrespective of the actual number of vases.

The third irrelevance marker $(auch)_(noch)_(so)$ ('no matter (how); however') (19.19%) is similar to the aforementioned $so_(auch)$, occurring in sentences such as (12).

(12) Auch dürfen sie nicht in der Sauce zerdrückt werden – mag das auch noch so schmackhaft sein.
 (DWDS; Graudenz 1967 [1956]: 380)

'Nor should they be mashed in the sauce - however tasty that may be.'

⁴ Expressions with < 10 in order of decreasing frequency were: *gleich**(6), *ob_(oder)_(nicht)*(5), *selbst_wenn*(4), *oder_w*(3), *immer*(2), *nun*(2), *satzstruktur*(2), *so_auch_immer*(2), *so_w*(2), *w***auch*(2), *obzwar*(1), *w*(1), *w***alles*(1), *w***sebr*(1), *was_nicht_alles*(1), *wennschon*(1).

The remaining irrelevance markers which occur with a raw frequency > 10 are *oder* (6.11%), *zwar* (5.75%), *oder_nicht* (1.65%), and *egal_w**(1.22%).

Expressions like *oder* ('or'), *zwar* ('although') and *oder nicht* ('or not') strengthen the contrastive component of the (ir)relevance judgement introduced by *mag. Egal_w** subsumes markers like *egal, gleichgültig, ganz gleich,* all meaning 'no matter' (Van der Haegen 2021). Sentence (13) is an example of a sentence with *oder nicht*.

(13) *Das mag fair sein oder auch nicht*. (DWDS; Kellner 1998: 71) 'That might be fair or not.'

The irrelevance markers occurring in the data were then classified according to the general distinction between scalar, universal, and alternative conditionals introduced in Section 3. Most typical of *mag* are scalar (n = 654, 47%) or universal (n = 617, 44.3%) expressions. Alternative irrelevance expressions such as *oder nicht*, while being highly typical of *mag* in direct comparison to epistemic *dürfte* (Politt 2022: 291), only occur in 120 (8.6%) sentences. This preference for scalar and universal expressions was to be expected given the relative frequency of the irrelevance expressions as depicted in Table 1. The difference found here is significant based on a chi-squared test on the absolute values of the three irrelevance expressions (X-squared = 383.56, df = 2, p-value < 2.2e-16). This is mainly based on the large difference between alternative markers in contrast to scalar and universal conditionals. Scalar and universal markers occur more often, alternative markers less often than expected. An additional look at the difference between scalar and universal expressions seems useful. The difference between them alone is not statistically significant (X-squared = 1.0771, df = 1, p-value = 0.2993). It is thus not possible to say that either scalar or universal markers are more typical of co-occurrence with *mag*, just that they are both significantly more likely to co-occur with *mag* in comparison to alternative markers.

In the data, 248 (17.8%) sentences have an adversative or concessive connector like *aber* ('but') or *doch* ('nevertheless'). The relative frequency of these connectors found by Rossari and Smirnova (2022: 257) was 50.4%, which could be explained by the selection of solely concessive sentences from newspaper texts as the basis of analysis. In the current data, only 14.6% of the 458 sentences from newspaper texts had connectors. Table 2 gives an overview of connector frequency relative to the genre of texts.

Genre	Connector (%)	No connector (%)
newspaper	14.6	85.4
scientific texts	18.7	81.3
non-fiction	19.6	80.4
fiction	22.2	77.8

Table 2: Connector frequency and genre

A chi-squared test based on the absolute values shows that these differences are not significant (X-squared = 5.4795, df = 3, p-value = 0.1399). Consequently, no connection between the

occurrence of an adversative or concessive connector in relation to the genre of the text in the data could be shown.

Politt (2022: 291) found a positive association of pronouns, *man* ('one') or impersonal *es* ('it') as subjects of sentences containing epistemic *mag*. In the data, 761 sentences (54.7%) contain one of these typical subjects, whereas 630 (45.3%) do not. The difference found here is significant based on a chi-squared test (X-squared = 12.337, df = 1, p < 0.001). Typical subjects occur more frequently than expected, while the untypical subjects occur with a lower frequency than expected. Sentences with additional irrelevance expressions thus show a tendency towards typical subjects for epistemic *mag*, indicating the connection to the epistemic component of *mag*.

5. Conclusion

This paper discussed the German modal *mag* in its epistemic reading in combination with an additional irrelevance expression. This discussion was based on typical context features of *mag* such as pronominal or impersonal subjects, irrelevance conditionals, or adversative/ concessive connectors as identified by Rossari and Smirnova (2022) and Politt (2022). The present paper focused on irrelevance expressions, since they were identified as the most distinctive feature of *mag* in comparison to epistemic *dürfte* by Politt (2022). *Mag* was found to be most frequently used with scalar and universal expressions of irrelevance, while alternative conditionals were least frequent. The most frequent irrelevance marker was w* (*auch*) (*immer*), a variant of which occurred in 42.2% of all sentences, while 17.8% of all sentences had an adversative or concessive connector. No significant correlation could be found between the use of connectors and text genres. The sentences containing *mag* showed a significant preference for pronominal or impersonal subjects.

It was argued that while the concessive and adversative reading of sentences containing *mag* is often strengthened by these context features, *mag* still retains its factuality judgment even when the context features are not present. This factuality judgement is twofold: The factuality of the sentence *mag* occurs in is judged as irrelevant and the factuality of a second proposition as relevant. This contrast in combination with the unconditionality of the irrelevance judgment places *mag* functionally close to the constructional family of concessive conditionals. Rather than a general concessive reading, *mag* has a concessive conditional reading that assesses the relevance of two consecutive propositions. It is therefore suggested that the functional description of *mag* given by Rossari and Smirnova with

the speaker indicates that it is possible for him/her to utter the propositional content, **although** s/he consider [sic] it irrelevant for the current discourse

(Rossari and Smirnova 2022: 256, emphasis in original)

can be rephrased to

Speakers use *mag* to assess the factuality, and thereby the truth value, of two contrastive propositions. The truth value of one proposition p_2 is assessed as true, regardless of the truth value of another proposition p_1 . By this, the speaker indicates that the truth value of p_2 is relevant to the discourse, while the truth value of p_1 is not.

References

- Baumann, Carolin (2017): Bedeutung und Gebrauch der deutschen Modalverben. Lexikalische Einheit als Basis kontextueller Vielheit (Linguistik – Impulse & Tendenzen). Berlin, Boston: de Gruyter.
- Bybee, Joan / Perkins, Revere D. / Pagliuca, William (1994): *The evolution of grammar. Tense, aspect, and modality in the languages of the world.* Chicago: Chicago University Press.
- Diewald, Gabriele (1999): *Die Modalverben im Deutschen. Grammatikalisierung und Polyfunktionalität* (= Germanistische Linguistik 208). Berlin: de Gruyter.
- Diewald, Gabriele (2004): Faktizität und Evidentialität. Semantische Differenzierungen bei den Modal- und Modalitätsverben im Deutschen. In: Oddleif Leirbukt (Hg.): Tempus/Temporalität und Modus/Modalität im Deutschen – auch in kontrastiver Perspektive. Internationales Kolloquium, 8.-9. September 2000, Bergen. Tübingen: Stauffenburg, 231–258.
- Diewald, Gabriele (2009): Konstruktionen und Paradigmen. In: Zeitschrift für germanistische Linguistik. 37 (3), 445–468.
- Diewald, Gabriele (2013): Modus und Modalverben Kategorisierungsoptionen im grammatischen Kernbereich der Modalität. In: Werner Abraham, Elisabeth Leiss (Hg.): *Funktionen von Modalität*. Berlin: de Gruyter, 77–110.
- Geyken, Alexander (2007): The DWDS corpus: A reference corpus for the German language of the 20th century. In: Christiane Fellbaum (Hg.): *Collocations and idioms: Linguistic, lexicographic, and computational aspects. Corpus and discourse. Research in corpus and discourse.* London, New York: Continuum, 23–41.
- Haspelmath, Martin / König, Ekkehard (1998): Concessive conditionals in the languages of Europe. In: Johan van der Auwera (Hg.): *Adverbial constructions in the languages of Europe* (= Empirical approaches to language typology 3). Berlin: Mouton de Gruyter, 563–640.
- Helbig, Gerhard / Buscha, Joachim (2017): *Deutsche Grammatik. Ein Handbuch für den Ausländerunterricht.* Stuttgart: Klett-Langenscheidt.
- Leuschner, Torsten (2006): Hypotaxis as building-site. The emergence and grammaticalization of concessive conditionals in English, German and Dutch. Teilw. zugl.: Berlin, Freie Univ., Diss., 2003. (= LINCOM studies in Germanic linguistics 24). München: Lincom Europa.
- Leuschner, Torsten (2013): Was Partikeln wohl (auch immer) mit Gleichgültigkeit zu tun haben. In: *Germanistische Mitteilungen.* 39 (1): 37–62.
- Leuschner, Torsten (2020): Concessive conditionals as a family of constructions. In: *Belgian journal of linguistics*. 34, 235–247.
- Mortelmans, Tanja (2019): Das Modalverb *dürfte* in epistemischer Verwendung: Ergebnisse einer neuen Korpusstudie . In: *Studia Germanica Gedanensia* 41, 113–126.
- Palmer, F. R. (2001²): Mood and Modality. Cambridge Textbooks in Linguistics. Cambridge: Cambridge University Press.
- Politt, Katja (2019): Verbale Konstruktionen in grammatischen Paradigmen. In: Dániel Czicza, Volodymyr Dekalo, Gabriele Diewald (Hg.), Varianz in der konstruktionalen Schematizität. Konstruktionsgrammatik. VI, Tübingen: Stauffenburg, 217–236.
- Politt, Katja (2022): *Formen und Funktionen von Paradigmen* (= Sprache System und Tätigkeit 75). Berlin: Peter Lang.

- Rossari, Corinne / Smirnova, Elena (2022): Post-modal Concessive Meanings: A Contrastive Corpus Study of French and German Modal Verbs. In: Laura Baranzini, Louis d. Saussure (Hg.). Aspects of tenses, modality, and evidentiality (= Cahiers chronos 31). Leiden, Boston: Brill, 234–261
- Vander Haegen, Flor (2019): Die Emergenz irrelevanzkonditionaler Subjunktoren des Typs ,egal was'. Variation und Grammatikalisierung anhand des Deutschen Referenzkorpus. In: *Germanistische Mitteilungen*. 45 (1&2), 113–138.
- Vander Haegen, Flor (2021): ,Egal wer/was'-Gefüge im DaF-Unterricht. In: Germanistische Mitteilungen. 47, 263.
- Vander Haegen, Flor / Bossuyt, Tom / Leuschner, Torsten (2022): Emerging into your family of constructions. German [IRR was] 'no matter what'. In: Constructions and Frames 14 (1), 150–180.
- Welke, Klaus (1965): Untersuchungen zum System der Modalverben in der deutschen Sprache der Gegenwart (= Schriften zur Phonetik, Sprachwissenschaft und Kommunikationsforschung 10). Berlin: Akademie-Verlag.